

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/061166 A1

(51) International Patent Classification⁷: **B23K 1/00**

Regional Office, Showa Denko, K.K., 224, Kaizancho
6-cho, Sakai-shi, Osaka 590-8576 (JP).

(21) International Application Number:
PCT/JP2004/019796

(74) Agents: SHIMIZU, Hisayoshi et al.; Idemitsu Nagahori
Bldg., 4-26, Minamimemba 3-chome, Chuo-ku, Osaka-shi,
Osaka 542-0081 (JP).

(22) International Filing Date:
24 December 2004 (24.12.2004)

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-426408 24 December 2003 (24.12.2003) JP
60/532,906 30 December 2003 (30.12.2003) US

(71) Applicant (*for all designated States except US*): SHOWA
DENKO K.K. [JP/JP]; 13-9, Shiba Daimon 1-chome, Mi-
nato-ku, Tokyo 105-8518 (JP).

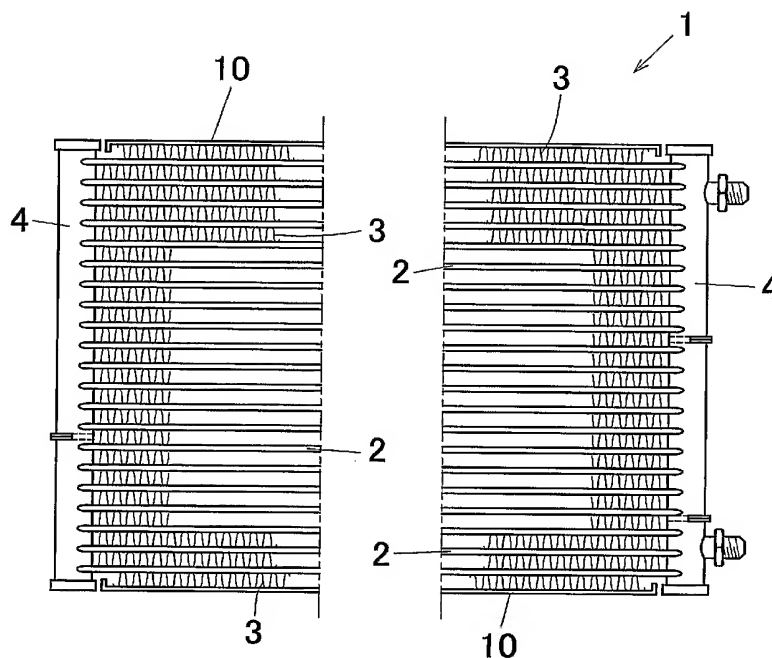
(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): MINAMI,
Kazuhiko [JP/JP]; c/o Oyama Regional Office, Showa
Denko K.K., 480, Inuzuka 1-chome, Oyama-shi, Tochigi
323-8678 (JP). YAMANOI, Tomoaki [JP/JP]; c/o Sakai

[Continued on next page]

(54) Title: HEAT EXCHANGER AND METHOD FOR MANUFACTURING THE SAME



(57) Abstract: A method for manufacturing a heat exchanger according to the present invention includes the steps of forming a thermally sprayed layer on a surface of an aluminum tube core by thermally spraying Al-Si series alloy brazing material onto the surface of the aluminum tube core to obtain a tube 2, applying flux composite containing non-corrosive flux showing zinc substitution reaction onto a surface of the tube 2, combining the tube 2 with the fin 3, and brazing the tube 2 and the fin 3 in an combined state.

WO 2005/061166 A1



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.